ANLY620

Course Summary

Course : ANLY620 **Title :** Predictive Analytics
Length of Course : 8
Prerequisites : BUSN662 **Credit Hours :** 3

Description

Course Description: This course gives emphasis to understanding how the predictive analytic approach flows, as well as the process of analysis starting with a problem, and through effective analytics approach that is cohesive and integrating of various statistical analysis tools for predicting behavior of variables in a modeled relationship. (PREREQUISITE: BUSN662)

Course Scope:

Upon successful completion of this course, the student will be able to identify: big data analytics and data analytics lifecycles and capable of reviewing the basic data analytics methods by using R. Apply advanced analytical theory and methods within clusters, association rules, regression, and classifications. Explain the purpose and usage of the time series analysis within the forecasting method and text format. Implement technology tool, such as MapReduce and Hadoop, and in-database analytics that is relevant to the Endgame process by using Microsoft Excel.

Objectives

1. Describe the factors in big data and its analytics lifecycles.
2. Discuss the reviewing process of the basic data analytic methods within the Regression process.
3. Explain the importance of the advanced analytical theory for products and services.
4. Describe the analytical methods when using clusters, association rules, regression, and classifications.
5. Explain how the forecasting techniques for time series throughout the predictive analysis process.
6. Discuss the role of the analysts when applying MapReduce and Hadoop methods within a predictive development process.
7. Discuss how predictive technology tools are used in communicating and operationalizing of the analytical project.
8. Encourage students to apply what they have learned in Endgame plan format or putting it all together by analyzing data visually from project deliverables that are based on predictive analysis.

Outline

Week 1:

Topic

Big Data Analysis, Overview, and Practices; Smoothing, Trends, and Seasonality

Learning Objectives

LO-1 Explain how Big Data Concept is driving predictive analysis; the regression concept of forecasting, and smoothing autocorrelations to trends.

Readings

Required resources for your course are provided in a course eReserve. Please click here (https://apus.libguides.com/er.php?b=c), enter your course number in the 'Search for course eReserves' box, click Go, and then select the course when it appears belowthe search box. Information included in LibAnswers (https://apus.libanswers.com/) provides download and print options for offline reading of Library ebooks.

Assignment

- Discussion Forum 1
- Problem Set 1
- Quiz 1

Week 2:

Topic

Data Review of Analytics Lifecycles; Diagnosing Trends and Time Series

Learning Objectives

LO-2 Discuss the reviewing process of the basic data analytic methods; smoothing approaches and exponential smoothing Holt linear

Readings

Required resources for your course are provided in a course eReserve. Please click here (https://apus.libguides.com/er.php?b=c), enter your course number in the 'Search for course eReserves' box, click Go, and then select the course when it appears belowthe search box. Information included in LibAnswers (https://apus.libanswers.com/) provides download and print options for offline reading of Library ebooks.

Assignment

- Discussion Forum 2
- Problem Set 2
- Quiz 2

Week 3:

Topic

Predictive Clustering and Association Attributes; Initializing Forecasting

Learning Objectives

LO-3 Describe the clustering and association process in predictive analysis; forecasting and Holt Methods

Readings

Required resources for your course are provided in a course eReserve. Please click here (https://apus.libguides.com/er.php?b=c), enter your course number in the 'Search for course eReserves' box, click Go, and then select the course when it appears belowthe search box. Information included in LibAnswers (https://apus.libanswers.com/) provides download and print options for offline reading of Library ebooks.

Assignment

- Discussion Forum 3
- Assignment 3

Week 4:

Topic

Predictive Regression and Classification Attributes; Seasonal Time Series

Learning Objectives

LO-4 Explain how predictive data is clustered and used in regression analysis; seasonal averages, and Holt winter model.

Readings

Required resources for your course are provided in a course eReserve. Please click here (https://apus.libguides.com/er.php?b=c), enter your course number in the 'Search for course eReserves' box, click Go, and then select the course when it appears belowthe search box. Information included in LibAnswers (https://apus.libanswers.com/) provides download and print options for offline reading of Library ebooks.

Assignment

- Discussion Forum 4
- Assignment 4

Week 5:

Topic

Applying Time Series Techniques and Text Analysis; addressing regression formulas

Learning Objectives

LO-5 Discuss the various types of time series techniques and the analysis of the given text; Correlation Formulas

Readings

Required resources for your course are provided in a course eReserve. Please click here (https://apus.libguides.com/er.php?b=c), enter your course number in the 'Search for course eReserves' box, click Go, and then select the course when it appears belowthe search box. Information included in LibAnswers (https://apus.libanswers.com/) provides download and print options for offline reading of

Library ebooks.

Assignment

- Discussion Forum 5
- Problem Set 5
- Quiz 5

Week 6:

Topic

Collaboration of Technology and Tools in Predictive Analytics process; Range Holt Winter Formulas

Learning Objectives

LO-6 Describe how the MapReduce and Hadoop Techniques are used in Predictive Analysis; Correction Formulas.

Readings

Required resources for your course are provided in a course eReserve. Please click here (https://apus.libguides.com/er.php?b=c), enter your course number in the 'Search for course eReserves' box, click Go, and then select the course when it appears below the search box. Information included in LibAnswers (https://apus.libanswers.com/) provides download and print options for offline reading of Library ebooks.

Assignment

- Discussion Forum 6
- Problem Set 6
- Quiz 6

Week 7:

Topic

The predictive analysis of In-Database Analytics; Multiplicative Models

Learning Objectives

LO-7 Explain how In-Database Analytics have been used as tools in the technology environment; Multiplicative and Additive Models comparison analysis

Readings

Required resources for your course are provided in a course eReserve. Please click here (https://apus.libguides.com/er.php?b=c), enter your course number in the 'Search for course eReserves' box, click Go, and then select the course when it appears below the search box. Information included in LibAnswers (https://apus.libanswers.com/) provides download and print options for offline reading of Library ebooks.

Assignment

- Discussion Forum 7
- Assignment 7

Week 8:

Topic

Hypothetical Endgames and/or putting the predictive practices into play -

Final Exam Paper

Learning Objectives

LO-8 To help students understand how to work through Endgame or putting the predictive analytics into practice through project analysis.

Readings

Required resources for your course are provided in a course eReserve. Please click here (https://apus.libguides.com/er.php?b=c), enter your course number in the 'Search for course eReserves' box, click Go, and then select the course when it appears below the search box. Information included in LibAnswers (https://apus.libanswers.com/) provides download and print options for offline reading of Library ebooks.

Assignment

- Assignment 8
- Final Exam

Evaluation

LESSONS AND READING

Students are required to actively participate reading and studying of the chapter materials so that they can analyze meaningful data and information by using predictive analytics methods and applications.

FORUMS

There are eight Forum Topics, in which are designed to promote interaction amongst fellow participants and to motivate or provoke other thoughts on the matter. This discussion format allows you to post and respond to other students within the convenient time frame of the weekly schedule. The study subject is graded in accordance with the assigned paragraph length requirements and required responses to at least two of your colleagues' postings. These postings must add value and expand the conversion on the topic. Correspondent must interact with other participants throughout the Forum exercise to receive full participation credit.

1. The Main Response to the Discussion Question(s) must be written in a substantive manner with no less than 250 words that are relevant to the discussion topic(s). You must also include at least one scholarly source in your researched response.

2. Your interactive post should be at least 150-200 words that expand the conversation forward.

3. Please do not attach your responses, but make sure that you write within the body of the forum.

ASSIGNMENTS

There is one written assignment per week which is due at the end of the week. Your grades are based on the completion of the assigned assignment in accordance with the instructor's lesson task requirements, and the use of the APA style guidelines. All the assignments must be uploaded into the Assignment Folder with your

Turnitin.com submission results for the grading purpose.

ASSESSMENTS

Tests/Quizzes – These assessments will challenge the understanding of the class textbook material by the students. There may be questions from Predictive Analytics: Microsoft Excel's topics. Assessments are configured as Problem Sets that will contain multiple-choice questions; or true and false, and essay or short answer format.

Grading:

Name	Grade %

Materials

Book Title: Predictive Analytics: Microsoft Excel

Author: Conrad Carlberg

Publication Info: QUE Publishing

ISBN: 9780789749413

Book Title: Course materials will change for April & beyond sessions. Please email booklist@apus.edu for an updated book list

Author:

Publication Info: Open Web Sources

ISBN: APUPOTI4

Book Title: Data Science and Big Data Analytics: Discovering, Analyzing, Visualizing and Presenting Data (Ebook available through the APUS Online Library)

Author: EMC Education Services

Publication Info: Wiley

ISBN: 9781118876138

Required resources for your course are provided in a course eReserve. Please click here (https://apus.libguides.com/er.php?b=c), enter your course number in the 'Search for course eReserves' box, click Go, and then select the course when it appears belowthe search box. Information included in LibAnswers (https://apus.libanswers.com/) provides download and print options for offline reading of Library ebooks.

Software Requirements

- Microsoft: Word, Excel, etc.
- Adobe Reader -- Go to http://www.adobe.com/products/acrobat/readstep2.html to download the latest version. This download is free.

Course Guidelines

Writing Assignment Guidelines Grade Rubric Requirements

Content (60%)

(50%)

- Response demonstrates a clear understanding of the key elements of assignment questions.
- Responses thoroughly cover the items in a substantive manner.
- Response demonstrates critical thinking and analysis.
- Content is complete and accurate.
- Introduction and conclusion provide adequate information on the given topic.

This was good, but more information was needed for a couple of the questions.

Organization (20%)

- Paper structure is clear and easy to follow.
- Ideas flow in a logical sequence.
- The introduction provides a sound introduction to the topic and previews major points.
- Paragraph transitions are logical and support the flow of thought throughout the paper.
- The conclusion thoroughly reviews the major points.

(20%)

Very nice.

Writing Style, Grammar, APA Format (20%)

(10%)

- Sentences are well constructed, complete, clear, and concise.
- Words used are accurate and unambiguous.
- The tone is appropriate to the content and assignment.
- Grammar, spelling, and punctuation are correct.
- APA guidelines (6th edition) are followed, such as headers, citations, references, etc.
- Practical use of aids, such as sections, summaries, table of contents, indices, and appendices (if appropriate)

Please remember APA formatting is required for all assignments in this class. Proof your papers carefully for grammar, punctuation, and sentence structure.

Forums Discussion Grade Rubric Guidelines

Quality Guidelines (50%):

- All discussion questions are answered thoroughly.
- Responses are original in content with a minimum of one external reference.
- All posts demonstrated analysis of the topic.
- Responses to classmates are significant and advanced the discussion.

40%

All responses need to be significant and demonstrate analysis of the discussion.

Participation Guidelines (30%):

- The primary response is posted by Day 3.
- The primary response is no less than 300 words.
- Reply to at least one of their classmates by Day 7.
- Responses to classmates are at least 200 words.

25%

At least one of your responses needs to be 200 words in length.

Clarity, Organization & Professionalism Guidelines (20%):

- Responses were organized and logical.
- No spelling or grammatical errors.
- References were used and cited properly.
- Appropriate language, respect and consideration toward peers/instructor.

20%

Very nice.

WRITING EXPECTATIONS

All written submissions should be submitted in a font and page set-up that is readable and neat. It is recommended that students try to adhere to a consistent format, which is described below.

- Typewritten in a double-spaced format with a readable style and font and submitted inside the electronic classroom (unless class access is not possible and the professor has approved other arrangements).
- Arial 12-point font or Times New Roman styles.
- Page margins Top, Bottom, Left Side and Right Side = 1 inch, with reasonable accommodation being made for special situations and online submission variances.

CITATION AND REFERENCE STYLE

Assignments completed in a narrative essay or composition format must follow APA format.

LATE ASSIGNMENTS

Late assignments are not automatically graded. Students having difficulties meeting class commitments must communicate with the instructor. Students are expected to complete assignments on time. A 10% penalty may be applied for each week assignments are late unless the student contacts the instructor ahead of time about an extenuating situation.

NETIQUETTE

Online universities promote the advance of knowledge through positive and constructive debate--both inside and outside the classroom. Discussions on the Internet, however, can occasionally degenerate into needless insults and "flaming." Such activity and the loss of good manners are not acceptable in a university setting-- basic academic rules of good behavior and proper "Netiquette" must persist. Remember that you are in a place for the fun and excitement of learning that does not include descent to personal attacks, or student attempts to stifle the discussion of others.

- **Technology Limitations:** While you should feel free to explore the full-range of creative composition in your formal papers, keep e-mail layouts simple. The Educator classroom may not fully support MIME or HTML encoded messages, which means that boldface, italics, underlining, and a variety of color-coding or other visual effects will not translate into your e-mail messages.
- **Humor Note:** Despite the best of intentions, jokes and--especially--satire can easily get lost or taken seriously. If you feel the need for humor, you may wish to add "emoticons" to help alert your readers: ;-), :), J

DISCLAIMER STATEMENT

Course content may vary from the outline to meet the needs of this group.

Academic Services

ONLINE LIBRARY RESEARCH CENTER & LEARNING RESOURCES

The Online Library Resource Center is available to enrolled students and faculty from inside the electronic campus. This is your starting point for access to online books, subscription periodicals, and Web resources that are designed to support your classes and not available through search engines on the open Web. Also, the Center provides access to unique learning resources, which the University has contracted to assist with your studies. Questions can be directed to orc@apus.edu.

- *Charles Town Library and Inter-Library Loan:* The University maintains a special library with a limited number of supporting volumes, a collection of our professors' publication, and services to search and borrow research books and articles from other libraries.
- *Electronic Books:* You can use the online library to uncover and download over 50,000 titles, which have been scanned and made available in electronic format.
- *Electronic Journals:* The University provides access to over 12,000 journals, which are available in electronic form and only through limited subscription services.
- *Turnitin.com:* Turnitin.com is a tool to improve student research skills that also detect plagiarism. Turnitin.com provides resources on developing topics and assignments that encourage and guide students in producing papers that are intellectually honest, original in thought, and clear in expression. This tool helps ensure a culture of adherence to the University's standards of intellectual honesty. Turnitin.com also reviews students' papers for matches with Internet materials and with thousands of student papers in its database and returns an Originality Report to instructors and/or students.
- Also, it is an excellent resource to check the content and quality of writing assignments and to avoid plagiarism. Students are required to create an account and submit all writing assignments to www.turnitin.com. An Originality Report will be generated upon paper submission, which must be submitted with your assignment. Writing Assignments will not be graded if the Originality Report is not submitted to the assignment drop box with the assignment. Your instructor will provide you with a course ID and password to enroll in the class.
- *Smarthinking:* Students have access to 10 free hours of tutoring service per year through

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University Policies

Student Handbook

- Drop/Withdrawal policy
- Extension Requests
- Academic Probation
- Appeals
- Disability Accommodations

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